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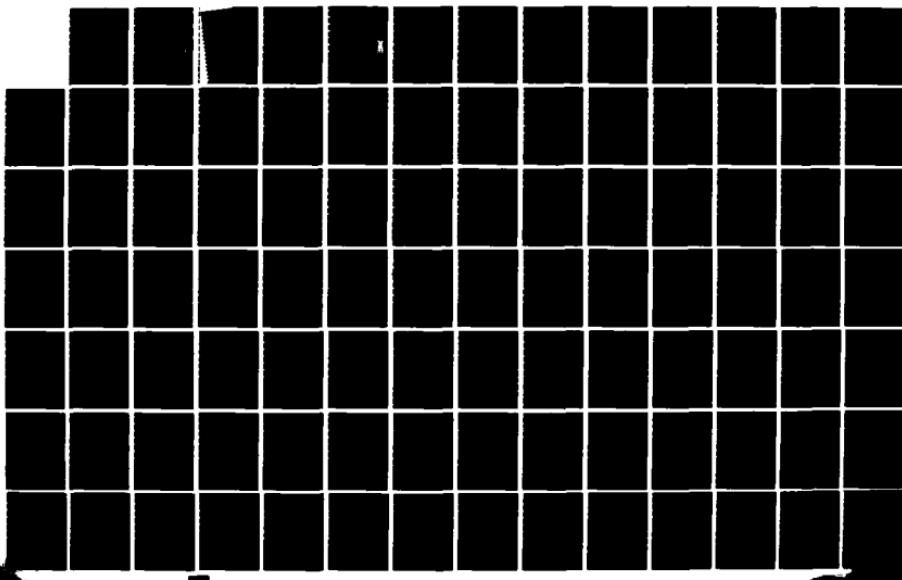
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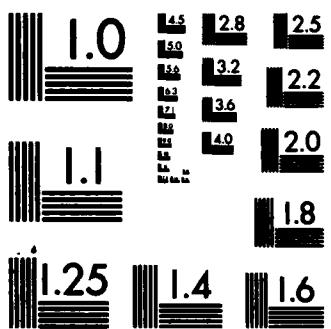
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Greenhalgh, Debra Ilene (M.S., Telecommunications)

The Advisability of Competitive International Satellites

Thesis directed by Dale N. Hatfield

This analysis examines the legal, political, and economic issues raised by the applications of Orion Satellite Corporation and International Satellite, Inc., before the Federal Communications Commission (FCC). The proposals request approval for the establishment of communications satellite systems potentially competitive with the International Telecommunications Satellite Organization (INTELSAT), a consortium of 109 member nations, which currently maintains a monopoly of international communications satellite traffic. The breadth of consequences resulting from a positive FCC action warrants a close scrutiny of U.S. international foreign policy objectives.

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THE ADVISABILITY OF COMPETITIVE
INTERNATIONAL SATELLITES

by

Debra Ilene Greenhalgh

B.A., Syracuse University, 1971

M.A., Webster College, 1981

A thesis submitted to the
Faculty of the Graduate School of the
University of Colorado in partial fulfillment
of the requirements for the degree of
Master of Science
Program in Telecommunications

1984



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CHAPTER I

INTRODUCTION

The past twenty years have seen many far-reaching changes stemming from man's ever-increasing knowledge of technology. Partly as a consequence of technological progress, the political and economic environments of today's world are in continual flux. More than ever before, events occurring in one nation influence happenings in others. The result is increasing importance of communications in political and economic spheres, as well as the scientific arena. The rapid, efficient, and accurate transfer of information on a worldwide scale is crucial in the present global milieu. National decisions can no longer be based upon a single consideration. Often the ramifications extend far beyond the scope of a solitary company, corporation, or nation.

On March 11, 1983, the Orion Satellite Corporation (Orion) submitted an application to the Federal Communications Commission (FCC) for permission to establish a commercial communications satellite system linking the United States and Europe. This request was rapidly followed by International Satellite, Inc. (ISI), who proposed a similar plan on August 12, 1983. At present, international satellite traffic is relayed by the International Telecommunications Satellite Organization (INTELSAT), a consortium of 109 member nations.

The United States was highly instrumental in the creation of this monopoly. Since INTELSAT's formation on August 20, 1964, the United States has held a prominent, if diminishing, role in INTELSAT.

The satellite systems proposed by the Orion and ISI applications would compete with INTELSAT. Because of the conceivable international reaction to approval of these proposals, an Executive Branch Task Force has undertaken an analysis of potential results with the intention of providing guidance to the FCC. Under these circumstances, action cannot be taken domestically without a broader view to U.S. international policy and its effects on the world at large. This analysis examines the legal, political, and economic issues raised by the possibility of commercial competitive international communications satellites.

CHAPTER II

LAWS OF COMPLIANCE

The Communications Act of 1934

The Communications Act of 1934 effectively merged the Federal Radio Commission (FRC) and the Interstate Commerce Commission (ICC) into a new organization known as the Federal Communications Commission (FCC). This organization, charged with the responsibility of regulating interstate communications by wire and radio in the public interest, was vested with powers granted by Congress. Among these was the authority to issue a "certificate of public convenience and necessity" required by new firms entering the communications industry and by existing common carriers extending communications lines. The FCC was also authorized to license the use of radio spectrum. Together these two powers provided the legal basis for regulation of domestic satellites. Any firm desiring to establish a satellite communication system had to apply to the FCC for permitted frequency spectrum. Any common carrier wishing to provide additional communications lines potentially competitive with satellite links had to obtain certification from the FCC.

The broad powers granted the FCC by Congress to adopt rules and regulations have had tremendous impact on United States communications policy. It must be noted, however, that the FCC is not

empowered to make law, although its rules carry the force of law. Interpretation of the law rests largely with the court system.

The Communications Satellite Act of 1962

In 1957, the Soviet Union launched Sputnik, the first artificial satellite placed in orbit around the earth. The U.S. response to this event was resource mobilization to become the leader in space technology. Anticipating the World Administrative Radio Conference in 1963 where negotiations over frequency allocations for an international global communications satellite system were to begin, Congress took action. Desiring a strong position at this conference, it realized the first country to place a communications satellite in orbit would be a dominant force. Thus, the Communications Satellite Act of 1962 was passed.

... it is the policy of the United States to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial satellite, as part of an improved global communications network, which will be responsible to public needs and national objectives, which will serve the communications needs of the United States and other countries, and which will contribute to world peace and understanding. 1

The declaration of policy and purpose of the Act goes on to say that in establishing this system,

... care and attention will be directed toward providing such services to economically less developed countries ..., toward efficient and economical use of the electromagnetic spectrum, and toward the reflection of the benefits of this new technology in both quality of services and charges for such services. 2

The Act expressly states that Congress does not intend to preclude additional communications satellite systems for domestic communication, for unique governmental needs, or if required in the national interest.

In order to achieve these goals, the Communications Satellite Act of 1962 authorized the creation of a private communications satellite corporation later known as COMSAT. The statutory language appeared to grant COMSAT a monopoly over the United States' interests in international satellite facilities. It also designated COMSAT the sole American participant in the global system. The President and the FCC were assigned regulatory and oversight responsibilities for the corporation and the satellite system. The National Aeronautic and Space Agency (NASA) was directed to assist COMSAT.

COMSAT

In creating COMSAT, the Communications Satellite Act of 1962 provided the necessary authority to "plan, initiate, construct, own, manage, and operate ... a commercial communications satellite system."³ By definition, however, this communications system was extremely limited and precluded systems designed to transmit directly to individual receivers. COMSAT could only relay transmissions to common carriers who would pass them to the end user. COMSAT was given the status of a common carrier's carrier. The FCC later clarified and reinforced the extremely limited role of COMSAT in its 1966 Authorized User Decision where it excluded COMSAT from any offerings in the

retail communications services market.⁴ This decision was revised with an action initiated by COMSAT in 1980 and will be discussed later.

The Act, under Section 305, also grants COMSAT the power to have certain dealings with "authorized entities" and "authorized users." Nowhere in the law, however, are these terms defined. Through their rulings, the FCC has determined who qualifies as an authorized entity or user.

INTELSAT

In July 1964, the United Nations General Assembly met in Washington, D.C. for the International Plenipotentiary Conference on Interim Arrangements for a global communications satellite system. The meeting concluded on August 20, 1964, with the signing of the Interim Agreements. The International Telecommunications Satellite Organization (INTELSAT) was born.

The Interim Agreements were intended to provide a basis for negotiation until such time as sufficient experience in the developing and operating of an international communications satellite system was acquired to enable the completion of the Definitive Agreements. Because the United States was the most technically advanced member of INTELSAT, COMSAT, the U.S. signatory, was made manager of the design, development, construction, establishment, operation, and maintenance of INTELSAT's space segment.

The Definitive Agreements, signed in Washington, D.C. on August 20, 1971, provided for the creation of an integrated management body responsible only to the organization and independent of any signatory.⁵ Although no longer manager for INTELSAT, COMSAT continued to provide technical and operational management functions under contract for a six-year transition period. The United States has been deeply involved and committed to INTELSAT since its inception, largely due to U.S. initiative. COMSAT remains the largest shareholder in INTELSAT with 24 percent ownership. To date, all INTELSAT spacecraft contractors have been American firms.⁶ INTELSAT has its headquarters located in Washington, D.C.

The Definitive Agreements

When the United States signed the Definitive Agreements, the documents acquired legal status. The aim of the Agreements as stipulated in the preamble is to achieve:

... a single global commercial telecommunications satellite system as part of an improved global telecommunications network
... to provide, for the benefit of all mankind, through the most advanced technology available, the most efficient and economic facilities possible consistent with the best and most equitable use of the radio frequency spectrum and of orbital space, believing that satellite telecommunications should be organized in such a way as to permit all peoples to have access to the global satellite system ...⁷

The United States formally concurred with these goals and concepts by signing the Agreements. The wording of INTELSAT's aims is highly reminiscent of the Declaration of Policy and Purpose statement in the

Communications Satellite Act of 1962.

Even at its creation, however, the members of INTELSAT foresaw the possibility of other international commercial satellites.

Article XIV, Section d states:

To the extent that any Part or Signatory or person ... intends individually or jointly to establish, acquire or utilize space segment facilities separate from the INTELSAT space segment facilities to meet its international public telecommunications services requirements, such Party or Signatory, prior to the establishment, acquisition or utilization of such facilities, shall furnish all relevant information to and shall consult with the Assembly of Parties, through the Board of Governors, to ensure technical compatibility ... and to avoid significant economic harm to the global system of INTELSAT. 8

This section, however, does not prohibit a nation from obtaining sources, other than INTELSAT, for international satellite communications, nor does the nation need to obtain INTELSAT's permission. The requirements are of notification and avoidance of economic harm.

NOTES - CHAPTER II

¹ U.S., Congress, "The Communications Satellite Act of 1962," The United States Statutes at Large, Public Law 87-624, Vol. 76, Sec. 102(a), 1962, p. 419.

² Ibid., Sec. 102(b), p. 419.

³ Ibid., Sec. 305.(a), p. 425.

⁴ U.S., Department of Commerce, National Telecommunications and Information Administration, Competition and Deregulation in International Telecommunications: An Analysis of Fifteen FCC Actions and Their Combined Effects, Prepared by MarTech Strategies, Inc., Vol. 1, p. 2-2.

⁵ INTELSAT, Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT), T.I.A.S. No. 7532, August 20, 1971, Article X(a), p. 19.

⁶ INTELSAT, INTELSAT IS ..., pp. 7-14.

⁷ INTELSAT, Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT), p. 4.

⁸ Ibid., pp. 27-28.

CHAPTER III

THE ORION PROPOSAL

On March 11, 1983, the Orion Satellite Corporation (Orion) submitted a request for authority to construct, launch, and operate a private international communications satellite system to the FCC. This proposed system, consisting of two geosynchronous satellites, one ground spare satellite, and control earth stations, would link North America and Western Europe. Users would purchase or lease transponder capacity on a non-tariffed basis for the life of the satellite. Common carrier service would not be offered. A wide range of video, data, and audio transmission services would be provided using the customer's choice of analog or digital techniques. The system is designed for use with moderate-sized earth stations.¹

The Orion Proposal - Pro

In presenting the arguments for and against the applications requesting authorization for commercial international satellites, the issues will be reiterated as seen from the perspective of the interested parties. Judgmental comments have been avoided and the arguments are presented as they appear in the various filings to the FCC.

The Communications Act of 1934

The Communications Act of 1934 mandated that the FCC:

... encourage the larger and more effective uses of radio in the public interest ... [and] to make available, as far as possible, to all people of the United States a rapid, efficient, Nation-wide and worldwide wire and radio communications service with adequate facilities. 2

When the FCC expanded its regulatory powers to include satellites, the concept of public interest became applicable to them. To be consistent with the Communications Act of 1934, Orion's system must be in the public interest. The corporation asserts this is indeed the case, for reasons which follow.

Orion proposes to sell or lease its transponder capacity. It will not act as a common carrier, nor will it offer services to the public. Orion cites Domestic Fixed-Satellite Transponder Sales, 90 FCC 2d 1238, 1261 (1982), appeal pending sub. nom. World Communications, Inc. v. FCC (D.C. Cir. No. 82-2054, filed September 10, 1982) as an example where the FCC found the sale of transponders to "present a positive market development that will enhance the provision of satellite services to the public.³ This decision, which pertained to the domestic satellite market, has been broadened by Orion to international scope. The corporation contends the selling of transponders will allow tailor-made and flexible arrangements not possible with a tariffed service offering. The advance knowledge of price and assurance of supply will permit long-term planning by users. The Orion satellite can be designed to specifically meet the unique requirements of the

transponder purchaser. It is Orion's contention that the offering of a non-tariffed, privately owned satellite system will complement publicly offered tariffed services and fill a void presently existing in the international sphere. Privately owned facilities will promote the development of telecommunications and related services by providing the optimum system and flexibility for a specific purpose. Carriers providing public service must, of necessity, supply an average best service which may not be the most advantageous for a given entity. New economic development will be largely dependent upon achieving the most reliable, cost-effective, and adaptive telecommunications possible. This requires private ownership of tailor-made facilities.⁴

The Communications Satellite Act of 1962

Orion states its proposal is consistent with the Communications Satellite Act of 1962 for reasons which follow. The Act foresaw the possibility of satellite systems other than the global INTELSAT system. Congress did not intend to "preclude the creation of additional satellite communications systems, if required to meet unique governmental needs or if otherwise required in the national interest."⁵ Orion has demonstrated that its system is in the national interest. In Transborder Satellite Video Services, 88 FCC 2d 258, 273-74 (1981), the FCC allows the use of domestic satellites for transborder international services. This was the authorization of a non-INTELSAT system to provide communications between the United

States and other sovereign powers. The FCC ruled this action was consistent with the Communications Satellite Act of 1962.⁶

The INTELSAT Agreements

Orion states its proposal does not conflict with the INTELSAT Agreements for several reasons. Article XIV establishes procedures for coordinating the use of satellite systems other than INTELSAT's by a member nation or by a person coming under the jurisdiction of a member nation. Article XIV(d) covers this situation when the satellite is intended to meet international public telecommunications services requirements. All relevant information must be furnished to insure technical compatibility with the INTELSAT system and to avoid significant economic harm to it. Article XIV(e) covers the utilization of a non-INTELSAT system for "specialized telecommunications services requirements, domestic or international ..."⁷ In this instance, only information regarding technical compatibility is required.⁸ Orion extracts a portion of the definition given in the INTELSAT Agreements for public telecommunications services and defines them as those "which can be provided by satellite and which are available for use by the public."⁹ Orion gives INTELSAT's definition of specialized telecommunications services as "all those which can be provided by satellites other than those defined as 'public' telecommunications services."¹⁰

Citing the essential element of common carriage given in National Association of Regulatory Utility Commissioners v. FCC, 525

F.2d 630, 641-42 (D.C. Cir. 1976), cert. denied, 425 U.S. 999 (1976) ("NARUC I") as the "indiscriminate holding out of services to the public,"¹¹ Orion claims it provides neither a service nor a common carrier public offering. It anticipates only the sale or long-term lease of satellite capacity to users for their private purposes. The proposal, therefore, is beyond the scope of the INTELSAT Agreements. If, however, it must comply in some manner, it would be covered by Article XIV(e) which requires only technical compatibility.¹² Orion stresses that even if it were necessary to meet the requirements of Article XIV(d), it would still do so on the grounds that its privately owned facilities complement common carrier systems, providing telecommunications which a common carrier cannot provide "fully, effectively, efficiently and realistically ..."¹³ The proposal additionally states that questions of INTELSAT coordination are "subsequent to, and separate from, the Commission's grant of authority under the Communications Act of 1934."¹⁴

The Orion Proposal - Con

The principal opponent to the Orion Application is COMSAT, the United States representative to INTELSAT. If the Orion system is authorized, it would obviously impact both the COMSAT and INTELSAT monopolies.

On April 5, 1983, a Petition To Deny Of Communications Satellite Corporation was filed with the FCC in response to Orion's filing. The Petition To Deny rebuts points made by the Orion Satellite Corporation.

According to COMSAT, Orion offers no services not presently provided by or planned by INTELSAT. On September 21, 1983, INTELSAT released a press bulletin giving notice of a new service called INTELSAT Business Service (IBS) to be initiated on October 1, 1983. IBS is fully digital and specifically designed for business need adaptability. The service makes no distinction between various applications and includes high and low-speed facsimile and data, video, teleconferencing, voice, electronic mail, and telex. All forms of digital signal processing are permissible within the technical performance limits of the circuits. While the system has global connectivity, a feature only INTELSAT offers, it is designed primarily for single-hop, point-to-multi-point transmissions in the C or K band frequency spectrums between the West Coast of North America and Europe and to locations in the Middle East. It is planned for operation with small earth stations on or near customer premises. Users may lease capacity for occasional, part-time or full-time purposes. They may transmit bit streams as slowly as 64 kilobits per second or as rapidly as 2.048 megabits per second.

IBS rates are charged to national telecommunications authorities. (COMSAT is this entity for the United States.) They determine how services will be distributed within their countries. One or all of three options may be chosen:

1. User gateway - businesses would have direct access through small on-premise earth stations.

2. Urban gateway - groups of users in a given location could share medium-sized earth stations.
3. Country gateway - routing of services would remain through large earth stations currently used to receive present INTELSAT transmissions.

Mr. Perras, INTELSAT's Director of Business Planning, states "The demand for it [IBS] is worldwide. It is not restricted to the high communications density streams."¹⁵

The Communications Satellite Act of 1962

The Communications Satellite Act of 1962 established as the policy of the United States the creation of a global commercial satellite system. INTELSAT became the means to attain this goal.

According to the National Telecommunications and Information Administration (NTIA), "[t]he global communications satellite system envisioned by the 1962 Act has become an unqualified, outstanding success on institutional, financial, and operational grounds, and must be considered a triumph of U.S. foreign policy." ¹⁶

In view of the leadership role the United States has held in INTELSAT, and the exceptional success of this international organization, COMSAT states that the granting "of the Orion Application would be inconsistent with the U.S. commitment to the INTELSAT system -- a commitment that was reaffirmed in the Commission's recent Transborder decision."¹⁷

In Transborder Satellite Video Services, several U.S. domestic satellite companies requested permission to use existing satellite ca-

pacity to service new receive points in Canada, Central America, and the Caribbean. In making its determination, the FCC placed strong emphasis on a letter written by then Under Secretary of State James L. Buckley to the Chairman of the Commission. While stressing the commitment of the United States to INTELSAT, the letter stated the position of the State Department as:

Certain exceptional circumstances may exist where it would be in the interest of the United States to use domestic satellites for public international telecommunications with nearby countries. One such case would be where the global system could not provide the service required. Another case would be where the service planned would be clearly uneconomical or impractical using the INTELSAT system. In such cases, the United States commitment to the global system would not preclude reliance on domestic satellite facilities. However, the burden of proof for demonstrating that sound technical operational or economic reasons warrant reliance on domestic satellites for international purposes must rest with proponents of such use. 18

In approving the specific applications in Transborder, the FCC applied Article XIV(d) of the INTELSAT Agreements. The Commission determined that only limited services were offered which would be impractical and uneconomical for INTELSAT to provide. COMSAT also points out that the approved services were to be provided by domestic satellites already operationally providing those services to other locations.¹⁹

COMSAT asserts that the Orion Application is not required in the national interest (in compliance with the Communications Satellite Act of 1962), and does not satisfy the standards in the Buckley letter. Orion's services duplicate those offered or anticipated by INTELSAT.²⁰

The INTELSAT Agreements

Orion purports that its satellite system is "beyond the definitional framework of the INTELSAT Agreements"²¹ because it does not offer a service. At most, claims Orion, it would only be required to coordinate technically with INTELSAT in accordance with Article XIV(e) since as a private carrier it will not make public offerings. Orion asserts if it were held to Article XIV(d), its privately owned, specially tailored services would be complementary to common carrier networks.²²

In its Petition to Deny, COMSAT states:

We do not think any such distinction between common carrier services and the offering of private facilities is valid here inasmuch as Orion has acknowledged that at least the foreign end of the network would operate through public PTT facilities. Moreover, the Orion proposal apparently would not preclude the sale or lease of transponders to U.S. common carriers, which would then use the facilities for common carriage. 23

COMSAT also provides a more complete version of the definition for "public telecommunications services" as given in Article I(k) of the INTELSAT Agreements:

... fixed or mobile telecommunications services which can be provided by satellite and which are available for use by the public, such as telephony, telegraphy, telex, facsimile, data transmission, transmission of radio and television programs ... and leased circuits for any of these purposes. 24

COMSAT defines specialized services as "non-fixed satellite services such as radio navigation, broadcasting, space research, meteorological, and earth resource services."²⁵ "[T]he fixed-satellite services that Orion has proposed are public, not specialized telecommunications

services"²⁶ COMSAT unequivocally asserts. Hence, the Orion system must comply with Article XIV(d) and it does not. It would produce significant economic harm to INTELSAT as it proposes a service which would compete directly with INTELSAT along its major high-density route, the Atlantic region.

Contrary to Orion's contention that FCC approval of their application is separate from the INTELSAT coordination issues, COMSAT implicitly states that the Commission must be certain the proposal complies with the INTELSAT Agreements prior to authorization because such authorization would imply the assumption that the United States supports the system and finds it worthy and eligible for INTELSAT coordination.²⁷

Citing a letter written by the State Department, COMSAT says the approval of the Orion application would be a major departure from established international communications satellite policy. No such departure, says COMSAT, is warranted, since it would economically harm INTELSAT, would encourage other nations to launch competitive satellite systems, would lessen U.S. credibility and leadership in INTELSAT, and would contradict U.S. efforts to internationally conserve geosynchronous orbital positions and frequency spectrum.²⁸

Opposition to Petition to Deny

In response to COMSAT's Petition to Deny, Orion filed an Opposition to Petition to Deny on April 28, 1983. Only new arguments or points which are elucidative will be mentioned.

Orion clarified the distinction between public and private undertakings. The corporation claims it has applied for satellite "construction, launch and operation"²⁹ permission. It will sell or lease transponder capacity, but will not be involved with earth station arrangements for which the user will assume responsibility. (The earth station concerns of Orion deal only with the control aspects of the satellites and their functioning.) To date, it is uncertain if the foreign end of transmissions will be required to go through public PTT facilities, but, states Orion, the entire argument is irrelevant. "[T]he fundamental private nature of the arrangement between Orion and its transponder owners would not be effected"³⁰ regardless of the method employed to distribute the transmission. Orion also comments it would be an FCC decision whether a common carrier could purchase transponder capacity from their corporation. Orion purports that COMSAT disregards the long-standing U.S. tradition to permit consumers the choice between commercial service providers and the owning and operating of private means.³¹ Orion cites the Above 890 decision and quotes:

In many cases the operation of the private user is such that it is not convenient or practicable for common carriers to provide such service (e.g., remote or isolated business operations). In this connection, it may be observed that certain of the private users now licensed endeavored to get such common carriers to provide such service initially, and constructed their own private systems only when the carriers refused to do so. Even in areas where common carrier facilities and personnel are readily available, there appears to be a need for private systems. In the first place, the private users do not require, in all cases, the high quality of service provided by the carriers to meet the varied needs of the public. Also, such private systems would provide for better control and flexibility for meeting their own hour-by-hour operational and administrative needs. 32

The FCC ruled that limiting private systems solely on the grounds that common carrier services were or might become available was not in the public interest. Orion, additionally, reiterated its arguments based on Transponder Sales that the private sale of transponders is a "positive market development ... [and does] not constitute a common carrier offering."³³

In support of the contention that its proposal is beyond the legal definition of the INTELSAT Agreements, Orion, once again, states that it will be a privately owned facility and will not offer a service. The corporation accuses COMSAT of faulty logic. It offers the complete definitions of "public telecommunications services" and "specialized telecommunications services" and concludes Orion's proposal must be placed in the category of "specialized telecommunications services"³⁴ if it does not involve the provision of "public telecommunications services." The definitions directly from the INTELSAT Agreements read:

- (k) "Public telecommunications services" means fixed or mobile telecommunications services which can be provided by satellite and which are available for use by the public, such as telephony, telegraphy, telex, facsimile, data transmission, transmission of radio and television programs between approved earth stations having access to the INTELSAT space segment for further transmission to the public, and leased circuits for any of these purposes; but excluding those mobile services of a type not provided under the Interim Agreement and the Special Agreement prior to the opening for signature of the Agreement, which are provided through mobile stations operating directly to a satellite which is designed, in whole or in part, to provide services relating to the safety or flight control of aircraft or to aviation or maritime radio navigation;
- (l) "Specialized telecommunications services" means telecommunications services which can be provided by satellite, other than those defined in paragraph (k) of this Article, including,

but not limited to, radio navigation services, broadcasting satellite services for reception by the general public, space research services, meteorological services, and earth resources services; 35

Orion reasserts that the term "common carrier" in the Communications Satellite Act of 1962 derives its definition from the Communications Act of 1934. In the 1934 Act, the term is defined as "any person engaged as a common carrier for hire, in interstate or foreign communications by wire or radio or in interstate or foreign radio transmission of energy."³⁶ Common carriers, quotes Orion, hold "themselves out to the public at large."³⁷ A private facility exists where the "practice is to make individualized decisions, in particular cases, on whether and on what terms to deal."³⁸ INTELSAT was planned by the Communications Satellite Act of 1962 to be a common carrier. The Act also included Section 102(d) whereby the Congress reserved the right to permit other satellite systems if warranted. Orion offers an excerpt from Senator Church in which he explains the purpose of Section 102(d):

The wisdom of this last clause "or if otherwise required in the national interest" is perfectly apparent. We cannot now foretell how well the corporate instrumentality established by this act will serve the needs of our people. If it should develop that the rates charged are too high, or the service too limited, so that the system is failing to extend to the American people the maximum benefits of the new technology, or if the Government's use of the system for, say, Voice of America broadcasts to certain other parts of the world proves excessively expensive for our taxpayers, then certainly this enabling legislation should not preclude the establishment of alternative systems, whether under private or public management. And just as certainly is that gateway meant to be kept open, in case we should ever need to use it, by the language to be found in the bill's "Declaration of Policy and Purpose" to which I have referred. 39

Orion stresses the intent of Article XIV(d) of the INTELSAT Agreements is to safeguard the essence of INTELSAT which is the provision of international satellite services on a common carrier basis. Since Orion is not a common carrier, it is not compelled to comply with Article XIV(d).

Orion also feels it is not governed by the standard established by the Transborder decision. That case, says Orion, concerned carriers who wanted to provide international public telecommunications services, and consequently, did indeed have to comply with Article XIV(d) of the INTELSAT Agreements. In contrast, Section 102(d) of the Communications Satellite Act of 1962 refers to any non-INTELSAT system and is not indicative of the Article XIV section to be complied with.⁴⁰ Orion proceeds to reiterate the arguments expressed in its original proposal supporting the belief that it is in accord with the Communications Satellite Act of 1962. The corporation adds that it has received "clear expressions of interest in its proposal"⁴¹ from approximately twenty entities on both sides of the Atlantic, one of whom is the U.S. Department of Defense.

Orion concludes its arguments by restating its private nature, its requirement to comply with Article XIV(e) of the INTELSAT Agreements, its benefits in the public interest, and its failure to raise any national or international policy issues.

Reply of Communications Satellite Corporation
to Opposition to Petition to Deny

COMSAT filed a reply to Orion on May 10, 1983, in which it opposed Orion's attempt to apply the domestic Transponder Sales decision internationally. COMSAT gives "general foreign policy considerations and the specific U.S. commitment to INTELSAT"⁴² as "significant countervailing factors in the international context."⁴³ Attention is also called to Section 102(d) of the Communications Satellite Act of 1962. The Act provides for additional communications satellite systems if "required in the national interest."⁴⁴ This is quite different from allowing additional systems provided they are in the public interest. While the public interest content of the Orion system may be debatable, COMSAT clearly feels the system is not required.

Reference is also made to the quotation of Senator Church provided by Orion. COMSAT points out that the wording strongly implies that Section 102(d) of the Communications Satellite Act of 1962 was designed to permit additional satellite systems in the event the one proposed by the Act proved a failure. "No one -- not even Orion -- has argued that INTELSAT has not been successful"⁴⁵ COMSAT stated emphatically.

COMSAT distinguishes between service to the public and common carrier service, a distinction it feels Orion does not make.

Orion is not proposing to establish a private, non-commercial system to satisfy its own communications needs. Rather, Orion proposes to establish and operate an international satellite system to sell and/or lease transponder capacity. ... The difference between common carrier and non-common carrier communications services is a United States domestic law distinc-

tion related to whether or not the Commission should or must regulate under Title II of the Communications Act. It is therefore not surprising that, for purposes of the INTELSAT Agreement, the Commission has consistently treated non-common carrier services as public telecommunications services. ... Accordingly, the definition of "public telecommunications services" clearly encompasses Orion's proposal to sell or lease satellite transponders to members of the public. 46

Under these circumstances, Orion must comply with Article XIV(d) and must meet standards set forth in the Buckley letter.

Supporting Evidence - Pro and Con

The INTELSAT Letter

On April 5, 1983, Santiago Astrain, Director General of INTELSAT, sent a letter to Kenneth W. Dam, Deputy Secretary of State. It is highly unusual for an INTELSAT official to deal directly with a government rather than the country's representative to the organization. It can only be taken as an indication of the depth of concern.

Mr. Astrain clearly states that the economic impact of the Orion application approval could potentially jeopardize INTELSAT's viability. The proposal is seen as the first in a series of many such applications to be filed in the United States. Authorization for international commercial satellites independent of INTELSAT by the United States would tacitly approve the development of similar systems in other countries. The long-term result of a proliferation of these systems along heavy traffic routes would undoubtedly damage INTELSAT. INTELSAT's rates are determined by a rate-averaging procedure. With 25 percent of worldwide, full-time traffic going between North America

and Europe, a system diverting those revenues would impact INTELSAT charges. The result of a rate increase would be felt throughout the world, and most critically by the Third World countries, some of whom are totally dependent upon INTELSAT for their international communications.⁴⁷

An Analysis of the INTELSAT Subsidy Issue

In June 1983, Orion Satellite Corporation requested Dale N. Hatfield Associates to examine the existence and size of interregional and intraregional subsidies by INTELSAT. It has been INTELSAT's contention that revenues from heavy traffic routes, particularly in the Atlantic region, are used to subsidize the less dense routes of the Indian and Pacific regions. This assumption has been the basis for INTELSAT's objection to Orion's proposal. A satellite system competing with INTELSAT in the highly profitable regions would damage this rate structure and result in higher costs to the INTELSAT system users, two-thirds of which are Third World countries. This analysis tests the efficacy of these assumptions.⁴⁸

Unfortunately, Dale N. Hatfield Associates was hampered by their inability to obtain cost records on investments, expenses, and charges by INTELSAT. As a non-regulated, international entity, INTELSAT is not required to make information public and the consortium chose not to do so. The figures used in the study, therefore, are derived only from public sources, primarily the annual reports of INTELSAT and COMSAT, COMSAT's reports to the President and Congress,

COMSAT stockholder reports, and trade publications.

An analysis was made indicating the INTELSAT regions (Atlantic, Indian, and Pacific) each covered their own operational costs and depreciation on plant and equipment.⁴⁹ The conclusion was that under these circumstances, no interregional subsidy could take place. The study pointed out that INTELSAT charges an additional 50 percent over their basic circuit price to entities using the smaller, less expensive earth stations (Standard B). Most users of the Standard B stations are nations with lower traffic levels. The surcharge is thus often assessed to the disadvantaged countries who presumably would benefit from a subsidy.⁵⁰ "Assessment of the surcharge may well offset any subsidy that may exist because of INTELSAT's average pricing structure."⁵¹ The conclusion is made that INTELSAT's claims regarding inter- and intraregional subsidies are not supportable by the figures used in the study. Admittedly, however, a good deal of assumption took place.

RCA Global Communication, Inc. (RCA Globcom) - Comments

RCA Globcom does not recommend either approval or denial of Orion's application. What the corporation does do, however, is request a broad rulemaking by the Commission. This entails a Notice of Proposed Rulemaking (NPRM) which identifies issues brought to light by the Orion proposal and potential policy alterations under consideration. The NPRM would request public comments.⁵²

Bank of America - Comments

The Bank of America supports the Orion application. They are large users of international satellite telecommunications. They see Orion as an opportunity to own their own space and on-premise ground equipment for communicating among their various offices in the United States and Europe. This, they say, would lessen administrative costs and increase flexibility and reliability.⁵³

CBS/Broadcast Group (CBS) - Comments

CBS recommends strong consideration of the Orion proposal. They have leased transponder capacity from INTELSAT for a full period, five-year term. However, they state, "leased service is fully preemptible by INTELSAT"⁵⁴ if necessitated by transponder capacity limitations. They feel that projected growth rates of traffic could seriously jeopardize the obtaining of INTELSAT contracts at affordable prices in the not too distant future. They see Orion as an alternative source from which to acquire the satellite capacity they require.

Home Box Office, Inc. (HBO) - Comments

HBO does not discuss the merits of the Orion application. It comments briefly on both the potential benefits and problems arising from the proposal. It does, however, request that if the Commission determines the necessity for broad rulemaking proceedings, they be conducted as quickly as possible and in coordination with the Executive Branch. A lengthy proceedings "may well disserve the consumer interests by withholding potential service advantages."⁵⁵ Coordinat-

ing Commission action with the Executive Branch policy review in progress would help resolve user uncertainties expeditiously.

American Telephone and Telegraph Company (AT&T) - Comments

AT&T states that it supports all pro-competitive, entrepreneurial endeavors, both domestically and internationally, but it believes the approval of the Orion application could alter the U.S. commitment to INTELSAT and affect the system's viability. Since AT&T heavily relies on INTELSAT to provide the space segment link for its international communications, the corporation is deeply concerned with this prospect. In fact, AT&T emphatically states, "Whatever action the Commission takes regarding the instant application, it must assure that such action will not erode or endanger the viability of the INTELSAT system."⁵⁶ AT&T requests assurance that should the proposal be approved, the Commission will grant no assistance in the event Orion falters. AT&T pointedly urges the Commission to state it "will not entertain any request by Orion to compel common carriers to use any spare capacity in the system."⁵⁷ AT&T also requests any decision on the application be deferred until such time as the Executive Branch review of the pertinent policy issues is completed and recommendations are made. The Commission is asked to consider whether it would be in the best interest of the United States to use non-INTELSAT facilities. AT&T additionally comments that Orion has not shown its system to be sanctioned by the foreign governments of its potential users.

Reply Comments - Orion

RCA Globcom requested the Commission undertake a broad rule-making to settle policy issues prior to consideration of the Orion application. Orion, however, insists its proposal asks only that the Commission apply existing domestic policy to the international arena and to "follow applicable statutes, case law and established principles of construction in interpreting the scope and purpose of the INTELSAT Agreements."⁵⁸ The proposal, says Orion, does not entail any major policy issues. A broad rulemaking would needlessly delay, "to the detriment of the United States and major international telecommunications users, the benefits of private facilities ownership."⁵⁹

In response to AT&T's request for Commission assurance that under no circumstances will common carriers be compelled to use Orion's facilities, Orion replies that it has never proposed this, nor can it imagine doing so. Orion can only surmise that AT&T has concerns over TAT-8 (their fiber optic cable). Clearly, AT&T would not want a repetition of the regulatory rules which required a proportionate division of U.S. traffic between satellites and submarine cable (to the detriment of the cable industry).

AT&T also stated that Orion's self-representation as a private, non-common carrier facility providing only "specialized telecommunications services" under Article XIV(e) of the INTELSAT Agreements, is based on the definition of common carriage as it appears in the Communications Act of 1934. This definition, however,

may not be applicable to the INTELSAT Agreements. Orion disputes this contention. The term "common carriage" as defined by the Communications Act of 1934, it says, is specifically incorporated into the definition of the Communications Satellite Act of 1962 which is the foundation for U.S. involvement in INTELSAT. Orion's response to AT&T's comments concerning policy issues, public interest, and foreign government sanctions is referred to their reply to COMSAT.

Department of Defense

On April 6, 1983, the Orion Corporation wrote a letter to Lt. Col. Jerome A. Landry, Chief, Commercial Communications Policy Office of the Defense Communications Agency of the Department of Defense. The letter asked if Orion were to "engineer to your best expectations so as to be technically responsive to your needs, would your agency negotiate for the purchase of transponder capacity?"⁶⁰ Lt. Col. Landry replied:

... if Orion can secure the proper authorization to provide the services you describe and subsequently go "on-line" with those services in a fashion that is responsive to our requirements, there is no question that we would welcome your company's addition to our Bidder's List. As such, you would be provided the opportunity to respond to competitive requests for proposals in the same way existing satellite service offerors do. 61

In Orion's Opposition To Petition To Deny, Orion says:

To date, expressions of interest in Orion's proposal have been made by approximately 20 entities, several of which have confirmed their positions in writing. Orion has received written confirmation from one U.S. government agency (the U.S. Department of Defense) and numerous commercial enterprises, ... 62

Orion refers to Lt. Col. Landry's letter. The Department of Defense (DOD) exhibited deep concern over this statement. The letter was intended to merely inform Orion that in the event of FCC approval, if their satellite facilities could fulfill DOD requirements, they would be considered on equal terms with other satellite service providers. The letter was never meant as a clear expression of DOD interest in Orion, nor was it meant to imply DOD transatlantic telecommunications would be improved through ownership of Orion furnished transponders. In fact, Orion was specifically told that current DOD policy is to obtain end-to-end services whenever feasible. To alleviate any misunderstanding, a letter by regulatory counsel for the Secretary of Defense and a sworn statement by Lt. Col. Landry were sent to the FCC with copies to the Department of State and the Department of Commerce, among others.

NOTES - CHAPTER III

¹U.S., Federal Communications Commission, Orion, Application of Orion Satellite Corporation for An International Communications Satellite System, File No. CSS-83-002-P, March 11, 1983, pp. I-1 - I-2.

²U.S., Congress, "The 1934 Communications Act," Statutes at Large of the United States of America, Public Law 416, Vol. 48, Part I, 73rd Cong., 1st sess., March 19, 1933 - June 19, 1934, p. 1064.

³U.S., Federal Communications Commission, Orion, Application of Orion Satellite Corporation for An International Communications Satellite System, p. I-3.

⁴Ibid., pp. I-3 - I-5.

⁵U.S., Congress, "The Communications Satellite Act of 1962," The United States Statutes at Large, Public Law 87-624, Vol. 76, Sec. 102(d), 1962, p. 419.

⁶U.S., Federal Communications Commission, Orion, Application of Orion Satellite Corporation for An International Communications Satellite System, pp. I-5 - I-6.

⁷INTELSAT, Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT), T.I.A.S. No. 7532, August 20, 1971, p. 28.

⁸Ibid.

⁹U.S., Federal Communications Commission, Orion, Application of the Orion Satellite Corporation for An International Communications Satellite System, p. I-7.

¹⁰Ibid., p. I-8

¹¹Ibid.

¹²Ibid.

¹³Ibid., p. I-9.

¹⁴ Ibid.

¹⁵ INTELSAT, INTELSAT to Provide Global Business Communication Service, September 21, 1983, p. 4.

¹⁶ U.S., Federal Communications Commission, COMSAT, Petition to Deny of Communications Satellite Corporation, File No. CSS-83-002-P, April 15, 1983, p. 4.

¹⁷ Ibid., p. 2.

¹⁸ U.S., Federal Communications Commission, Memorandum, Opinion, Order and Authorization, Transborder Satellite Video Service, 88 FCC 2d, July 23, 1981, p. 272.

¹⁹ U.S., Federal Communications Commission, COMSAT, Petition to Deny of Communications Satellite Corporation, p. 8.

²⁰ Ibid., pp. 8-9.

²¹ U.S., Federal Communications Commission, Orion, Application of Orion Satellite Corporation for an International Communications Satellite System, p. I-8.

²² Ibid.

²³ U.S., Federal Communications Commission, COMSAT, Petition to Deny of Communications Satellite Corporation, p. 2.

²⁴ Ibid., p. 10.

²⁵ Ibid.

²⁶ Ibid., pp. 10-11.

²⁷ Ibid., p. 11.

²⁸ Ibid., p. 13.

²⁹ U.S., Federal Communications Commission, Orion, Opposition to Petition to Deny, File No. CSS-83-002-P, April 28, 1983, p. 5.

³⁰ Ibid., pp. 5-6.

³¹ Ibid., p. 6.

³² Ibid., p. 8.

³³ Ibid., p. 9.

³⁴ Ibid., p. 14.

³⁵ INTELSAT, Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT), T.I.A.S. No. 7532, August 20, 1981, Article I, p. 5.

³⁶ U.S., Federal Communications Commission, Orion, Opposition to Petition to Deny, p. 19.

³⁷ Ibid., p. 21.

³⁸ Ibid.

³⁹ Ibid., pp. 22-23.

⁴⁰ Ibid., pp. 30-31.

⁴¹ Ibid., p. 33.

⁴² U.S., Federal Communications Commission, COMSAT, Reply of Communications Satellite Corporation to Opposition to Petition to Deny, File No. CSS-83-002-P, May 10, 1983, p. 3.

⁴³ Ibid.

⁴⁴ Ibid., p. 4.

⁴⁵ Ibid.

⁴⁶ Ibid., pp. 6-9.

⁴⁷ Letter of Santiago Astrain, INTELSAT, to Kenneth W. Dam, Department of State, April 15, 1983.

⁴⁸ Kenneth R. Dunmore, An Analysis of the INTELSAT Subsidy Issue, Prepared for Orion Satellite Corporation by Dale N. Hatfield Associates, Boulder, CO, August 1983, p. 1.

⁴⁹ Ibid., p. 4.

⁵⁰ Ibid., p. 5.

⁵¹ Ibid.

⁵² U.S., Federal Communications Commission, RCA Globcom, Comments, File No. CSS-83-002-P, April 15, 1983, p. 1-3.

⁵³ Letter of Lloyd Isaacs, Bank America, to William J. Tricarico, FCC, August 24, 1983.

⁵⁴ Letter of Roger D. Colott, CBS/Broadcasting Group, to William J. Tricarico, FCC, August 8, 1983.

⁵⁵ U.S., Federal Communications Commission, Home Box Office, Inc., Comments of Home Box Office, Inc., File No. CSS-83-002-P, May 6, 1983, p. 4.

⁵⁶ U.S., Federal Communications Commission, AT&T, Comments, File No. CSS-83-002-P, April 15, 1983, p. 4.

⁵⁷ Ibid., p. 5.

⁵⁸ U.S., Federal Communications Commission, Orion, Reply Comments, File No. CSS-83-002-P, April 28, 1983, p. 4.

⁵⁹ Ibid., p. 5.

⁶⁰ Letter of Thomas K. McKnight, Orion, to Jerome A. Landry, Defense Communications Agency, April 7, 1983.

⁶¹ Letter of Jerome A. Landry, Defense Communications Agency, to Thomas K. McKnight, Orion, April 18, 1983.

⁶² U.S., Federal Communications Commission, Orion, Opposition to Petition to Deny, File No. CSS-83-002-P, May 10, 1983, p. 34.

CHAPTER IV

THE INTERNATIONAL SATELLITE, INC. (ISI) PROPOSAL

The Orion application was rapidly followed on August 12, 1983, with another request by International Satellite, Inc. (ISI). ISI's satellite system consists of two geosynchronous satellites, one reserve satellite, launch vehicles, and control and operational earth stations. Coverage would extend from the Pacific Coast of the United States to the Adriatic Coast of Italy. This span includes Europe.

More than half the transponder capacity will be offered on a tariffed, common carrier basis. ISI expects its satellite system to be used primarily for high-speed data, video and audio program distribution, and additional video services transmitted directly to small, receive-only terminals located on the customer's premise or in nearby urban areas.

The ISI Proposal - Pro

Many of the arguments offered to support the ISI proposal are similar or identical to those presented by Orion advocates. Effort has been expended to address only those points which differ from or highlight those previously discussed.

The Communications Act of 1934 - Public Interest

Eliminating double satellite hops and lengthy landline extensions will substantially reduce costs to the customer who can transmit directly from one business location to another. Aside from the obvious benefits derived from decreasing cost, ISI purports there will be secondary benefits rising from the stimulation of new and innovative satellite uses. An ISI system would insure an independent Atlantic regional satellite system of U.S. origin and would enhance U.S. trade in the area of telecommunications services.¹ Unlike Orion, ISI acknowledges the need for foreign policy considerations when dealing in the international arena. The corporation plans to develop a market which INTELSAT has not and cannot service as it presently exists. It is also willing to temporarily exclude provision of transponder capacity to AT&T for international switched message telephone service (MTS) which constitutes the majority of INTELSAT's Atlantic region income. Additionally, ISI will provide the United Nations with one free transponder in support of U.S. international goals for telecommunications.²

The ISI proposal lists a series of video, digital, and audio services it plans to provide. While these services are not unique, says ISI, the technical and business characteristics of their satellites will allow the services to penetrate new markets. ISI lists these features as follows:

- Unique regional coverage - including CONUS and Western Europe;

- Spacecraft design that provides low-cost, customer premises earth stations;
- Extremely flexible, cost-effective coverage of the region or parts of it; and
- A variety of financial means of obtaining use of ISI facilities, i.e., purchase, lease, common carriage.³

Stress is placed on the elimination of satellite hopping and multiple companies in the transmission of information from the U.S. West Coast to Europe.

With a "one-hop" transmission such as ISI proposes, numerous possibilities for error are eliminated, making the transmission much more smooth and efficient, and holding only one company accountable for loss of service. This will sharply reduce costs and make the tracing of technical and operational difficulties much more simple. ISI expects that improved performance capacity will virtually create a new market. ⁴

National Policy Consistency

Through a listing of FCC rulings and inquiries, ISI builds a case to show national policy is pro-competitive in both words and actions. Within the last few years, the FCC has authorized new international carriers, granted COMSAT permission to compete domestically in new ventures, authorized AT&T entry into the international record, and eliminated limitations on the use of MTS service. The FCC is also considering ownership of INTELSAT-accessing earth stations by entities other than COMSAT, and direct access to INTELSAT by carriers without intercession by COMSAT. Authorization of a competitive transatlantic satellite system would be only another pro-competitive,

policy-consistent action.⁵ ISI proceeds to expound upon the benefits of competition. It lists the development of new satellite services, innovation and technological growth, impetus to trade, and encouragement of international resale and shared use policies as some of competition's many desirable results.⁶

Due to the size of existing INTELSAT interfacing earth stations, their limited number and the frequencies they employ, they must often be located in rural areas, away from the urban centers they frequently serve. As a result, user expense is increased by the cost of transmitting traffic to and from these earth stations. Authorization of the ISI proposal would virtually eliminate the necessity for these extensions by permitting the use of small earth stations in the United States. The same benefits would be available in Europe given government approval of direct-access earth stations. Reduced costs and increased satellite accessibility should open new markets and make heretofore uneconomical satellite uses now affordable.⁷

Although inaccurate in its statement describing IBS, ISI was apparently aware a new offering was to be made. This description was written prior to INTELSAT's press release:

This new business is circumscribed in scope. INTELSAT has ordered modification to only two INTELSAT VA's. The K_u band capacity and capability is limited, the planned orbital locations and beamwidths for these spacecraft cannot provide CONUS coverage, the transmissions apparently will be limited to digital modulation, and the amount of intra-beam networking possible will be extremely small.⁸

ISI explains that their satellites will allow networking between beams. This, they say, will be important to customers with multiple locations in the United States and Europe. Users should be permitted to access this flexibility. The advantages inherent in ISI's space-craft design, they say, will allow the development of transatlantic services that will not economically harm INTELSAT. "In essence, what ISI proposes to do is not to divide the existing pie into smaller pieces, but to enlarge the pie."⁹

Another way in which the ISI system will support the public and national interest is by providing diversified capacity to DOD in national emergencies. The use of small earth stations would permit communications between the United States and European NATO forces. It could also allow direct transmissions between CONUS and U.S. troops without use of foreign controlled extension lines. The national emergency powers section of the Communications Act of 1934 permits the U.S. government to commandeer facilities when required for national security. This, of course, would be impossible with INTELSAT facilities which are owned by a consortium of nations. ISI, however, would be a U.S. system and consequently, would be available in emergency situations.

Because the number of geosynchronous satellites is limited by the availability of orbital slots, the approval of the ISI proposal, in conjunction with U.S. notification to the International Frequency Review Board (IFRB) of the International Telecommunications Union (ITU), would help assure U.S. access to these resources. ISI points

out that the use of narrow beams and low sidelobe antennas permits the same orbital slots and frequency spectrum to be reused by other systems in certain South American countries, assuming coordination and planning.¹⁰ In an effort to support the intent of the Communications Satellite Act of 1962, promotion of a worldwide satellite system, ISI makes one transponder available to the United Nations for utilization as the organization deems appropriate.¹¹

Compliance with the Communications Act of 1962 and the INTELSAT Agreements

Unlike Orion:

ISI recognizes its proposal to provide regional satellite service necessarily involves foreign policy considerations in addition to those of domestic policy. ISI believes its proposal advances U.S. foreign policy insofar as the U.S. seeks technological leadership, trade, comparative advantage, and wider implementation of the competitive model. 12

ISI is firmly convinced that it is in accord with both the Communications Satellite Act of 1962 and the INTELSAT Agreements. In a footnote, ISI states:

U.S. adherence to the INTELSAT agreements has on occasion been erroneously referred to as a treaty obligation. U.S. adherence is in the form of an Executive Agreement. As such, it is binding on the U.S. internationally and is the domestic equivalent of law, but has not been the subject of Senatorial advice and consent and is not a treaty obligation. 13.

ISI reminds the Commission that while the United States unquestionably is committed to INTELSAT, this is not unconditional, exclusive, nor inflexible. Telecommunications technology has progressed tremendously since the enactment of the Communications

Satellite Act of 1962. The revenues from international commercial satellite traffic have grown from a base of zero in 1965 to the millions of dollars currently grossed. Simultaneously, U.S. dominance of satellite technology has greatly diminished. In 1965, the United States was the only INTELSAT member technically able to successfully launch a communications satellite. Indeed, Early Bird was basically a U.S. project, from design to launch. Since that time, however, "[m]ore than half of INTELSAT's member countries are participants in or are actively studying participation in regional communications satellite systems."¹⁴

The INTELSAT of 1983 is a highly successful organization. It no longer requires the protection of the U.S. government as in the past. INTELSAT continues to meet its vital goal of global satellite communications, but, says ISI:

... it should accommodate itself to a more flexible posture in which its institutional purposes and needs are complemented by those other organizations. ... Viewed in this fashion, approval of ISI in no way derogates from U.S. policy; it simply redefines that policy in light of the practical realities of the 1980's and 90's.¹⁵

ISI discusses the Buckley letter (July 23, 1981) as the most recent U.S. policy statement concerning INTELSAT. While the letter both reaffirms U.S. commitment to INTELSAT and to a global system, it does not exclude all other satellite systems. The inability of INTELSAT to provide service or the impracticality and uneconomical provision of such services are two examples given in the Buckley letter as justification for non-INTELSAT systems. FCC decisions in

Transborder Satellite Video Services and American Satellite Company, along with a 1983 Common Carrier Bureau authorization in Eastern Microwave Incorporated, et al. all support the allowance of other satellite systems when INTELSAT service provision is needlessly expensive and impractical.¹⁶ ISI clearly feels the services they propose belong in this category.

The Buckley letter, however, contains the wording, "Certain exceptional circumstances may exist where it would be in the interest of the United States to use domestic satellites for public international telecommunications with nearby countries." ISI disputes the "exceptional circumstances" clause. In a footnote, ISI explains:

Article XIV(d) [of the INTELSAT Agreements] does not speak of exceptional circumstances. It is entirely neutral on the question whether such proposals will be exceptional or routine. The most straightforward reading of Article XIV(d) is simply that states have an obligation to coordinate and to consider in good faith INTELSAT's views on potential economic injury. Both states may proceed with or without INTELSAT's concurrence. In this sense, ISI believes the Buckley letter improperly and erroneously sets too high a standard for U.S. proposals. 17

The INTELSAT Agreements

The Orion application argues that compliance with Article XIV(d) is unnecessary. It need only comply with Article XIV(e) which does not contain the "no significant economic harm" clause. Later, however, Orion did authorize the Dale N. Hatfield Associates' economic analysis. ISI acknowledges an obligation under Article XIV(d) to prove it will cause no significant economic harm to INTELSAT. Its goal, says ISI, is to develop new markets, not to compete with INTEL-

SAT's existing or planned services. To ensure INTELSAT's economic health, ISI is willing to temporarily forego carrying AT&T's international switched message traffic which comprises roughly 85 percent of INTELSAT's income.¹⁸

In order to determine whether a satellite system will cause "significant economic harm" to INTELSAT, this key phrase must be interpreted. ISI has concluded that "the drafters had in mind the sort of economic injury which would call into question the existence and nature of INTELSAT."¹⁹ In 1977, INTELSAT's Director General testified that the INTELSAT nations chose a plan which "involves the coordination of separate satellite systems to ensure technical compatibility and to preserve the economic viability of INTELSAT. . ."²⁰ A participant in the INTELSAT Definitive Agreements commented that the key phrase was changed from "substantial" to "significant" economic harm as a compromise measure between nations desiring strictly non-competitive wording and those who desired more flexibility. In 1971, Under Secretary of State, U. Alexis Johnson, wrote in a letter, "European Communications Satellites would appear to cause measurable but not significant harm; U.S. would therefore expect to support it with launch services."²¹ The FCC has also made a distinction between minor and significant harm in Transborder Satellite Video Services. All these examples, says ISI, are intended to provide historical support that some degree of economic injury by new systems to INTELSAT is acceptable providing the viability of INTELSAT is not endangered. In its Article XIV(d) coordination of systems such as INMARSAT, Arabsat,

Eutelsat, and others, INTELSAT itself has concluded that although these proposed systems will carry some traffic which INTELSAT might have serviced, the majority of the proposed system traffic would not be served by INTELSAT. ISI feels its proposal should be considered acceptable under this criteria.

The primary market at which ISI is aiming is not currently being served by INTELSAT, and cannot readily be served by it in the period in question. ... ISI's traffic and revenues will come predominantly not by cutting into INTELSAT's markets but by creating and servicing markets which INTELSAT would not otherwise have been servicing anyhow. 22

The final portion of the ISI proposal attempts to analyze the maximum amount of economic harm ISI could possibly cause INTELSAT. As with Dale N. Hatfield Associates' study, ISI's analysis is hampered by its inability to get cost and traffic flow data from INTELSAT. It has, nonetheless, made some deductions.

There are two ways in which a competitive system could harm INTELSAT. First, so much traffic could be siphoned from INTELSAT that their planning bases for current construction is eroded. Secondly, INTELSAT revenues could decline sufficiently to negatively affect the cost of current basic services. ISI addresses only the latter issue since it believes the former is entirely political in nature. 23

As stated previously, 85 percent of INTELSAT's 1981 reported revenues of \$250,000,000 were derived from full-time service; primarily telephone traffic. ISI is willing to temporarily forego all AT&T MTS traffic which eliminates a great portion of the ISI threat to INTELSAT. 24 ISI evolved the following figures to illustrate how little

U.S.-to-Western European traffic actually contributes to INTELSAT's total traffic:

	<u>1985</u>	<u>1990</u>	<u>1995</u>
<u>Projected U.S.-to-Western European full-time services</u>			
Projected total INTELSAT full-time service	22.4%	23.4%	24.0%

These figures were based upon a report supplied to the FCC Advisory Committee by a subcommittee. The same source predicted 91 percent to 95 percent of this traffic would be public switched telephone.²⁵

By economic analysis, ISI has estimated its total maximum traffic diversion from INTELSAT at 3.18 percent. It adds that this diversion would occur over five to seven years, and would thus amount to only an approximate .5 percent per year. "And this during a period when INTELSAT is expecting a 14.0% to 14.5% annual growth. Reducing this growth to 13.5% to 14.0% could surely not be considered as causing significant economic harm."²⁶ ISI stresses INTELSAT's fiscal health:

It is worth noting that INTELSAT currently has 107 members [109 members according to INTELSAT]. The system carries more than half the world's intercontinental traffic. The capital ceiling for space segment is now \$2.3 billion. The current value of the space segment is about \$1 billion. The value of the earth segment of the system owned by users is about \$2 billion. There are 307 earth stations in 135 countries connected in over 1000 paths. Over 20 nations use the space segment for domestic purposes and traffic continues to grow at a rate which produces a doubling of levels every 3 to 3.5 years ... INTELSAT's traffic will increase by 80% in the next four years. ²⁷

Considering this information, ISI finds difficulty in believing that a loss of .5 percent annually of future income could

endanger INTELSAT's existence. ISI points out that the economic concerns expressed by COMSAT and INTELSAT have been only verbiage; no data has been offered to support their conclusions of inevitable harm. ISI also questions what appears to be COMSAT's and INTELSAT's assumption that any economic loss would, of necessity, require increased rates. According to ISI, this has not been the case.

Despite recent worldwide economic conditions causing growth rates to decrease, INTELSAT's financial performance continues to be excellent. As INTELSAT itself recently reported a cumulative return on capital exceeding 16% since 1973, versus its target of 14% per annum.²⁸

COMSAT has implied that revenues diverted from heavy traffic routes would necessitate increased charges for less traveled routes. ISI states there is no data, whatever, to support this contention. "The Commission's concern about COMSAT's continued excess rate of return and opportunities for cross-subsidization of non-INTELSAT ventures suggests just the opposite."²⁹ It has never been shown, says ISI, that any subsidy exists, much less that a minimal diversion of traffic would undermine INTELSAT's rate schedule sufficiently to mandate rate increases for light traffic routes, to say nothing of endangering INTELSAT as an entity.³⁰

ISI points out that "[t]he U.S has never agreed to be bound by a negative finding on the part of INTELSAT and indeed, just the reverse is the case."³¹ In a 1972 letter, Under Secretary of State, U. Alexis Johnson, wrote:

If launch assistance is requested in the absence of favorable recommendation by INTELSAT, we expect that we would provide launch assistance for those systems that we have supported

within INTELSAT so long as the country or international entity requesting the assistance considers in good faith that it has met its relevant obligations under Article XIV of the definitive agreements.³²

Within the next few years, a transatlantic fiber optic cable will be laid which will compete with international satellite traffic between the United States and Europe. COMSAT has implied, states ISI, that it regards this competition favorably as "it stimulates the satellite engineers and marketing experts to improve their performance."³³ ISI firmly believes this can also be true for competition created by other satellite systems.

The ISI Proposal - Con

On September 19, 1983, COMSAT filed a Petition to Deny of Communications Satellite Corporation in response to ISI's application. Its arguments against the application are basically the same as those against Orion's proposal. Once again, COMSAT states that ISI's proposal is inconsistent with the Communications Satellite Act of 1962 because it is neither "required to meet the unique governmental needs ... nor required in the national interest."³⁴ It rebuts any attempt to use Senator Church's statement to support new international satellite systems, saying that his remarks were only intended to keep options available should the systems contemplated in the Act of 1962 fail. Unquestionably, INTELSAT has been a success. COMSAT repeats its assertion that the FCC decision in Transborder pertained only to domestic satellites already in existence and does not apply to ISI's

application which presents an entirely new situation.

COMSAT does bring up a new point when it states:

Moreover, ISI fails to recognize that the present arrangement -- under which multiple U.S. carriers provide end-to-end service directly to users -- already facilitates considerable price and service competition. In addition, satellites compete with undersea cables on all major high-density routes. 35

The problem of economic harm to INTELSAT is once again raised. COMSAT disputes ISI's maximum traffic diversion figure of 3.18 percent and does not acknowledge that AT&T could be prohibited from using ISI's system. In fact, COMSAT approximates ISI's capacity at 52,480 circuits. Using ISI's estimate for transatlantic telephone traffic in 1987 of 40,579 circuits, COMSAT concludes:

Clearly, ISI has not designed a system with such potential without plans to make use of its massive capacity. Realistically, it can do so only by diverting telephone traffic -- which is the backbone of the INTELSAT traffic base. ... ISI can give no principled reason for so depriving AT&T of the purported benefits of ISI's proposed system. The obvious reason for ISI's offer is to becloud the likelihood of significant economic harm to INTELSAT. Moreover, ISI's proposed moratorium would at best affect only the timing -- and not the extent -- of its system's effect on INTELSAT. 36

COMSAT also discusses the upcoming services to be offered by IBS. (At the time of this petition, the IBS press bulletin had not yet been released.) COMSAT concluded that INTELSAT will be able to provide full geographic coverage and necessary services for users and thus "ISI's claim that the 'unique technical and business characteristics' of its proposed system would 'permit ISI to develop and serve new markets' is unfounded."³⁷

Next, COMSAT examines the broad problem presented by Orion, ISI, and other anticipated proposals for commercial international satellites. COMSAT states, they are:

... asking the Commission to open the door to additional satellite systems on INTELSAT's major high-density routes. ... Accordingly, if the Commission were to grant ISI's Application, it would have no principled basis for refusing to give full consideration to similar applications to provide transatlantic or transpacific communications satellite service. 38

U.S. approval of non-INTELSAT systems would also encourage foreign governments to develop similar systems. As these systems proliferate, eventually economic harm would befall INTELSAT. The Commission, says COMSAT, must consider the broad scope when deciding upon ISI's application.

Regarding the ISI proposal in this larger framework, COMSAT believes it could "seriously harm important U.S. interests."³⁹ If the ISI application is approved to acquire additional orbital slots and frequencies for the United States, the world would see the action, says COMSAT, as U.S. promotion of inefficient use of these resources. This could result in increased tensions at the 1985/88 Space WARC (World Administrative Radio Conference) and could lessen U.S. accessibility to additional orbital and spectrum assignments.⁴⁰

In summarizing, COMSAT believes no departure from present U.S. policy regarding international satellite systems is warranted. If, however, the Commission does not deny ISI's proposal, COMSAT requests a broad rulemaking procedure.⁴¹

Supporting Evidence - Pro and ConAT&T - Comments

In the comments filed on September 19, 1983, AT&T neither supported nor opposed ISI's application, but asked the Commission to ensure INTELSAT's viability and to delay action until the Executive Branch policy review is completed. AT&T, however, vehemently opposed prohibiting ISI from carrying their traffic should the application be approved.

[A]ny attempt to minimize the economic impact which ISI's proposal may have on INTELSAT should not be based on a blatantly discriminatory moratorium of AT&T's use of ISI's system for MTS. Indeed, the very essence of our obligation to provide just and reasonable services is based in substantial measure on our ability to use cost effective facilities. ... Approval of the ISI application should not be conditioned on discriminatory treatment of AT&T. 42

As with its commentary on the Orion proposal, AT&T asks the FCC to clearly state that ISI must succeed without any assistance from the Commission. AT&T also urges a rapid decision concerning private ownership of INTELSAT-accessing earth stations.

RCA Globcom - Comments

In their September 19, 1983 comments, RCA Globcom reviews the request made in their Orion proposal commentary asking for broad rule-making proceedings. Since the time of that filing, April 15, 1983, many opportunities have been available for interested parties to make their concerns known. The Executive Branch has initiated a policy review; Senate hearings on international telecommunications (Bill

S. 999) have included statements by INTELSAT, COMSAT, and Orion. Public comments on the Orion proposal have been asked for and received, and now an additional opportunity is presented in response to the ISI application. Considering these events, RCA Globcom no longer feels a broad rulemaking is necessary. The time required for such a procedure would injure the public interest by delaying the availability of competitive alternatives to INTELSAT. RCA Globcom recommends expeditious Commission action to create guidelines "that will allow for processing of applications to make other satellite systems available for international service."⁴³

Orion Satellite Corporation - Comments

Orion's comments, filed on September 19, 1983, stress that by providing common carrier services, ISI will directly compete with COMSAT and INTELSAT while their proposed system will not. Orion requests ISI to state the specific transponder capacity allocated for non-common carrier purposes. It also asks the Commission to distinguish between transponders used for common carrier services, which must comply with Article XIV(d) of the INTELSAT Agreements, and transponders intended for private use which need only comply with Article XIV(e).

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¹U.S., Federal Communications Commission, ISI, Application of International Satellite, Inc., August 12, 1983, p. 7.

²Ibid., p. 8.

³Ibid., p. 10.

⁴Ibid., p. 12.

⁵Ibid., pp. 24-27.

⁶Ibid., pp. 27-32.

⁷Ibid., pp. 32-33.

⁸Ibid., pp. 33-34.

⁹Ibid., p. 35.

¹⁰Ibid., p. 37.

¹¹Ibid., pp. 37-38.

¹²Ibid., p. 40.

¹³Ibid.

¹⁴Ibid., p. 41.

¹⁵Ibid., p. 42.

¹⁶Ibid., pp. 46-47.

¹⁷Ibid., p. 47.

¹⁸Ibid., p. 48.

¹⁹Ibid., p. 49.

²⁰Ibid.

²¹Ibid., p. 50.

²² Ibid., p. 51.

²³ Ibid., p. 53.

²⁴ Ibid., pp. 53-54.

²⁵ Ibid., pp. 54-55.

²⁶ Ibid., p. 56.

²⁷ Ibid., pp. 56-57.

²⁸ Ibid., p. 59.

²⁹ Ibid.

³⁰ Ibid., p. 60.

³¹ Ibid., p. 64.

³² Ibid.

³³ Ibid., pp. 60-61.

³⁴ U.S., Federal Communications Commission, COMSAT, Petition to Deny of Communications Satellite Corporation, File Nos. CSS-83-004-P (LA), I-P-C-83-073, September 19, 1983, p. 4.

³⁵ Ibid., p. 7.

³⁶ Ibid., p. 11.

³⁷ Ibid., p. 10.

³⁸ Ibid., p. 12.

³⁹ Ibid., p. 13.

⁴⁰ Ibid., p. 14

⁴¹ Ibid., p. 16.

⁴² U.S., Federal Communications Commission, AT&T, Comments, File Nos. CSS-83-004-P (LA)-1 through 3, I-P-C-83-073, September 19, 1983, p. 6.

⁴³ U.S., Federal Communications Commission, RCA Globcom, Comments, File Nos. CSS-83-004-P (LA), I-P-C-83-073, September 19, 1983, p. 4.

CHAPTER V

COMMENTARY

The International Environment

The last twenty years has seen tremendous growth in technology and demand for international communications. In 1956, the first voice transoceanic submarine cable (TAT-1) became operational, supplying approximately 36 two-way voice-grade circuits. TAT-8, the newest authorized submarine cable, is planned with a capacity of 46,000 two-way voice circuits. This example of fiber optic technology will create an entirely new generation of cable. It is planned for operation in the late 1980's.¹ The use of fiber optics is expected to not only expand cable capacity, but to decrease costs and permit multi-point distribution. Digital transmission techniques will make services not technically feasible with analog transmission possible.

Changes in the satellite arena have also been dramatic. The year 1965 saw the launching of the first international communication satellite, INTELSAT 1, known as Early Bird. Early Bird provided earth coverage of only the North Atlantic region. It could transmit 240 voice circuits, or one television circuit. During television transmission, telephoning had to be suspended.² Today, INTELSAT is preparing for the launch of INTELSAT V-A in 1984. This satellite can carry 15,000 two-way telephone circuits in addition to two television

channels. The V-A also has two steerable spot beam antennas designed to provide domestic leasing services.³

Not only has technology vastly increased the capacity of satellites, it has greatly reduced the cost. In June 1965, the annual charge for a half circuit through COMSAT/INTELSAT was \$32,000. Within six months, that cost had dropped to \$20,000, and by 1981, it was down to \$4,680 where it has reached a plateau.⁴ In addition to cost reduction, technological improvements in such areas as computers, satellite transmission and access techniques, spot beams, polarization, antenna steerage, and solid state power amplifiers have vastly increased the feasible and conceptual uses for satellites. One example is the proliferation of small, receive-only earth antennas which are now a viable option for many small businesses and even for homes who wish to access satellite transmitted television programs.

Submarine cables and satellites are the two principal medias for the international transmission of communications. The methods by which they are owned and managed, however, differ greatly. Suboceanic cable provided point-to-point communications between two countries. It is generally owned, operated, and controlled by mutual agreement between the U.S. service carriers and the foreign entity on a 50-50 basis. Life expectancy for a cable is twenty-four years. Its cost is distance-sensitive and includes development, manufacturing, laying, operating, management, and repair costs. Charges for circuits can, therefore, be determined by incorporating the total cost of the cable and a reasonable profit.

INTELSAT, however, owns and operates all international communications satellites. This international organization, in turn, is owned on an approximately proportionate usage level by the member countries who compose it. Ground station segments which access INTELSAT satellites are owned by the nations where they are located. INTELSAT was established as a global satellite network. Revenues from high traffic density routes are purportedly used to subsidize lower, less profitable routes. INTELSAT charges an average rate to member nations who then distribute the transmissions and add whatever charges they deem appropriate to those entities under their jurisdiction. The cost of a satellite circuit is not distance-sensitive, and not nearly as straightforward in origin as that for a submarine cable. The expected life of a satellite is seven to ten years.

Within the United States, history has shown the Congress and the FCC to have kept tight reign on the development of both the cable and the satellite industries. When the Communications Act of 1934 was passed, generally no distinction was made between domestic and international common carriers. The same broad "public interest" standard was used to regulate both aspects of service. No recognition of the unique international environment was made.⁵ The FCC controlled the amount of traffic carried by the satellite and cable industries through granting or denying authorization for new facilities.

Although American ideals support the concepts of free enterprise, competition, technological growth, and the opportunity to try, monopolies have served a useful purpose in initiating new, capital-

intensive, high-risk systems such as the railroads, transcontinental telegraph and telephone lines, and satellite systems. Governmentally granted monopolies assured businesses that, at a minimum, they would recover the enormous expenditures required plus a reasonable profit before having to compete in open markets. Monopolies, however, have always been viewed with mistrust and suspicion because they do not embrace American ideals. Periodically, they should be re-examined on a case-by-case basis. Conditions change and situations evolve. A once useful monopoly may no longer serve the purpose for which it was intended. In recent years, U.S. domestic policy has moved further and further in the direction of deregulation as evidenced by the recent AT&T divestiture.

In some instances, the United States has endeavored to extend its principles of competition and deregulation into the international arena, but has met with only limited success. It must be remembered that, while domestically, the FCC, Congress, and the Courts can mandate policy, this is untrue internationally. International telecommunications must be a cooperative effort between the United States and other sovereign nations. This point was emphasized when the FCC granted two domestic carriers, Graphnet, Inc. and Telenet, permission to provide facsimile and packet-switched data services to international points. The reality, however, is that these services remain available only through interconnection with existing international record carriers (IRCs) due to the inability of the domestic carriers to obtain agreements with foreign entities.⁶

In the United States, telecommunications services are provided primarily by private enterprise. In most foreign countries, however, telecommunications are provided by a Department of Post, Telegraph and Telephone (PTT) which is governmentally owned or mandated. Revenues of the PTTs, which frequently are quite profitable, can be used to subsidize research or other government services. The national goals of countries vary. Those goals are not always in harmony with the national aims of the United States such as the promotion of competition, open entry into the telecommunications market, and cost-based rating.

Many international organizations such as the United Nations, the International Telecommunications Union, NATO, INTELSAT, and INMARSAT deal with telecommunications. These organizations themselves may have conflicting goals. The United States, with potentially differing economic, political, and legal commitments to these organizations, needs to act consistently if she is to maintain her credibility among foreign nations. Yet, actions taken under specific circumstances in support of U.S. interests may be inappropriate under other circumstances due to the changing international environment. The tremendous technological advances over the past decade have created a new international climate. There is an ever-increasing demand for telecommunications, ranging from international banking to joint defense requirements. The merging of the computer with communications has had enormous impact on the nations of the world. With the growing importance of telecommunications, its use as a lever in international negotiations can be assumed. Laws and policy must be reviewed and up-

dated to meet the demands of changing times.

INTELSAT and the United States

The early INTELSAT was entirely dominated by the United States. The Interim Agreements established the Interim Communications Satellite Committee (ICSC) as the governing organ. Each signatory had a number of votes equal to its percentage ownership in INTELSAT. In most matters, the majority ruled. Since the United States had 61 percent of the votes, she virtually monopolized the government body, determining its policy. When COMSAT became the manager, controlling operations and contract awards, the U.S. domination was assured. COMSAT, as a U.S. corporation, is subject to U.S. law. For all practical purposes, therefore, INTELSAT was also subject to U.S. law.⁷

The original concept for a single global satellite system stemmed from logical and technological necessity. During the early negotiation talks (1961-1963) intended to establish INTELSAT, it was believed that a global system would require 30 to 40 low-altitude satellites. It wasn't until 1963 when geosynchronous satellites needing only three spacecraft for global coverage became technically feasible, that possibilities other than a single global system became available. The United States had a good deal to gain politically and economically by a single global system designed, procured, and managed by one organization under her control. She, therefore, supported this position. The Europeans, however, felt smaller, regional systems would make more efficient use of orbital slots and frequency spectrum, while

providing greater communications capacity. Although they went along with U.S. demands for a single global system, it was at European insistence that the Interim Agreements contained wording allowing for additional satellite systems if required to meet the unique governmental needs of member nations. Since European telecommunications facilities are controlled by government associated PTTs, "unique governmental needs" could be applied to any situation desired by them.

European discontent, led by the French who wanted to share in the advances and advantages that came politically and economically with early space exploration, made plans for a regional European satellite system. By 1967, Canada, Russia, and a Japan-involved Pacific system were contemplated. As negotiations for the INTELSAT Definitive Agreements began in 1969, support for a single global system had eroded. Even the United States was considering a domestic satellite system. Rather than risk the possibility of competitive satellite systems outside of INTELSAT, COMSAT agreed to non-INTELSAT systems within the INTELSAT framework. Article XIV resulted.⁸

COMSAT

Today, COMSAT is no longer the manager of INTELSAT. U.S. shareholdings have diminished from 61 percent to 24 percent, and more than 50 percent of research and development contracts are awarded to non-U.S. organizations. INTELSAT is no longer under U.S. control. COMSAT was aware of its decreasing authority in INTELSAT and took measures to assure its corporate survival beyond its ties to this

organization. In 1969, COMSAT opened laboratories in Clarksburg, Maryland, which are deeply involved in electronic, digital processing, power and amplifier, and antenna technologies, among others. In 1972, COMSAT entered the domestic satellite business with the creation of FCC-approved Satellite Business Systems (SBS). In 1979, Environmental Research and Technology (ERT) became a wholly owned COMSAT subsidiary. Also in that year, TeleSystems, which manufactures shipboard terminals, echo cancellers, and time division multiple access equipment was established. Satellite Television Corporation (STC), involved with direct broadcasting, was formed in 1980. CGIS, COMSAT's computer-aided engineering software subsidiary, was also incorporated in that year. In 1982, COMSAT acquired Amplica, Inc., which produces microwave amplifiers and related systems. In addition to its many subsidiaries, COMSAT continues to provide consultant services to other organizations and is also the U.S. representative to INMARSAT. COMSAT appears to have foreseen the coming of such applications as those of Orion and ISI. While striving to delay the advent of such systems, COMSAT seems to have taken the logical and necessary business precautions against the time when such proposals are approved.

The INTELSAT Agreements

Even among opposing factions, there is unanimous agreement on the tremendous success of INTELSAT. This success, however, has been used to justify different positions. In October 1983, Richard Colino, Director General-elect of INTELSAT, testified before the subcommittee

on Arms Control, Oceans, International Operations and Environment.

Reported by Broadcasting Magazine:

Colino said the U.S. leadership in establishing Intelsat has been a "major triumph" of U.S. foreign policy -- it brought affordable telecommunications service to virtually every country in the world and benefitted the U.S. not only through the development of technologically advanced service but in generating for it "tremendous good will." Now, he said, the U.S. is engaged in a policy review that foreign countries perceive as a weakening of U.S. support for Intelsat. 9

This statement must be closely examined. It will be remembered that strong opposition existed against U.S. domination of INTELSAT. The United States prevailed because it was the only INTELSAT member technologically and experimentally advanced in satellite communications. As of 1981, 33 of the 106 members of INTELSAT held the minimum investment share of 0.05 percent. These countries, considered here to be the developing nations, are largely Central and South American, and African. How much U.S. good will presently exists in these areas, even given the status quo of INTELSAT, is certainly open to debate.

Colino also expressed his concern that FCC approval of systems such as Orion and ISI would encourage other countries to develop similar systems. It will be recalled that even during early negotiations for INTELSAT, other countries considered developing their own systems. At the time, however, they did not possess the technology. Today, this is no longer true. Regional systems currently operational or in the planning stages include Eutelsat (European), Arabsat (Arabian), Afrosat (African), Palapa (Indonesian), and Intersputnik (Algerian). There is no guarantee a denial of the Orion and ISI applications would

prohibit other nations from developing transatlantic or transpacific commercial satellite systems; it would merely ensure that the first such system is not of U.S. origin. There is a safeguard, however, should members of INTELSAT differ with an FCC approval action. Without concurrence and coordination of foreign governments, no international system is feasible. For communication to occur, a satellite system must have both a transmitting and receiving end. By refusing to allow transmission into their countries, foreign governments could effectively destroy any commercial satellite venture.

Economic Harm

INTELSAT was never intended as a charitable organization. A consortium of nations, INTELSAT charges the same fee to all users, makes a profit, reinvests its earnings, and returns a portion to the member countries composing it. In this respect, INTELSAT is very much like any corporation. If an individual owns ten shares of General Electric and buys a toaster, he pays X amount of dollars. Another person owning 1000 shares pays the same X dollars for the same toaster. Profits, however, are divided proportionately by the number of shares owned. Thus, the 1000 shareowner would receive 100 times more than the ten shareowner as a return on his investment. Neither shareholder, however, has much to say concerning how efficiently G.E. is run, the price of the toaster, or how much is paid for product materials. The member nations of INTELSAT do have some voice on these topics. No statistics, however, are available concerning INTELSAT's

efficiency. All that is known is the high rate of return on investment provided by the organization, a cumulative return of 16.1 percent since 1973.¹⁰

INTELSAT has attempted to show its efficiency by citing its tremendous growth from 150 half circuits in 1965 to 50,250 half circuits in 1981, and the enormous cost drop of a half circuit from \$64,000 in 1965 to \$4,680 in 1981.¹¹ On the surface, these figures are, indeed, impressive. INTELSAT's growth rate, however, must be attributed to the dramatic increase in demand for satellite services. Since INTELSAT is the only provider of international satellite capacity, its growth is a certainty given this rising demand. It cannot be attributed to INTELSAT's efficiency. It is also true that cost per half circuit has greatly decreased over the years. The initial drop from \$64,000 to \$32,000 occurred within the first six months of the organization's existence. The assumption would be that INTELSAT simply overestimated its costs, or was over-capitalized. The remaining reductions have been steady and gradual. As in many products, the prototype of a satellite is far more costly than the models made from it. The research and development cost for the initial model is almost always more than the improvement costs of later models. As technology advanced and computers, circuit boards, microchips, integrated circuits, and microprocessors became commonplace, costs for electronic equipment lessened tremendously. One has only to look at the rapid price deceleration of pocket calculators to see the effect of mass production and technology in action. INTELSAT certainly cannot attri-

bute their lower charge per half circuit entirely to efficiency. Although some cost comparisons can be made between INTELSAT and domestic satellite systems, the unique international monopolistic position of INTELSAT prohibits full knowledge of their efficiency.

It can be assumed that INTELSAT's decisions are sometimes politically motivated rather than economically determined. For example, a research and development contract could be extended although new developments in technology indicate research should be conducted in a different direction, or, a higher than necessary contractual bid could be accepted to bring a compromise on an unrelated topic. The political aspects of INTELSAT would appear to require decisions not 100 percent profit motivated. New satellite systems could, therefore, compete with INTELSAT. INTELSAT, however, has had nearly twenty years to become established and gain experience. New entries to the satellite market run high risks of failure simply because they have yet to make the mistakes INTELSAT has already overcome.

INTELSAT and COMSAT have argued that competition on high-density traffic routes would unbalance a purported subsidy to low-density routes, presumably utilized by developing countries. Given a subsidy exists, who's interests does it serve? In the following discussion, the view taken will be that of the United States as a political entity.

In the developing countries, INTELSAT operations have been very closely associated with attempts to nationalize telecommunication facilities and rid these countries of neo-colonialist influences. In country after country in Latin America, the inauguration of INTELSAT services has been closely paralleled with termination of international telecommunication concession rights by foreign business interests. 12

Many of these foreign businesses have been American. Their assets have either been nationalized or political conditions have altered to the extent that business activities are no longer economical or practical. These occurrences, aided by INTELSAT operations, are most undesirable from a U.S. perspective.

Since the Signatories with developing economies lack adequate economic resources, as well as trained technicians, INTELSAT has frequently served to pose a difficult policy question for these countries. Primarily among these questions have been: (a) Should available resources be devoted to developing internal telecommunications facilities? (b) Is there sufficient international traffic to justify construction of an earth station? (c) Are the numerous financial requirements of INTELSAT membership, such as exchange in U.S. currency, capitalization and utilization payments worth the return? These countries have each had to find their own answers to these difficult questions. ... For the majority of these countries with extremely low amounts of international traffic construction of standard earth stations ... would involve status motivation more than a sound financial investment. 13

Apparently these nations feel their participation in INTELSAT is worth the expense. One must wonder, however, if these feelings are justified. While INTELSAT certainly is not responsible, the organization might not be assisting these nations at all.

To date, no concrete statistics have been made available by INTELSAT to support their contention that a subsidy exists. Both Orion and ISI have tried to disprove this idea. "Publicly available

information from INTELSAT suggests that the uniform rates reflect the reality that INTELSAT's costs for each of the three ocean regions are proportionate to respective traffic volume in each region.¹⁴ Of INTELSAT's sixteen satellites, eight are deployed over the Atlantic Ocean, three over the Indian Ocean, and five over the Pacific Ocean.¹⁵ If indeed there is a subsidy, the question arises as to why INTELSAT has not produced the figures to end the controversy. Until data can be examined, a beneficial cross-subsidy between high and low-traffic routes cannot be assumed.

INTELSAT has also indicated that diverting traffic from high-density routes would cause a loss of economies-of-scale, thereby necessitating price increases. When economies-of-scale are due to quantity produced, there comes a leveling-off point where increased production no longer drops the price per unit item. It would seem that INTELSAT has reached this plateau. There have been no reductions in price per half circuit since 1981.¹⁶ The amount of traffic diversion necessary to lose economies-of-scale is unknown. It cannot, however, be said with any certainty that this loss would occur.

U.S. Telecommunications Policy

The direction in which U.S. foreign policy is headed has been gleaned from statements made by governmental personages, letters written between government agencies, and FCC rulings. While all valid sources, the fact remains that no comprehensive policy position on international satellites has been issued. Currently, the International

Telecommunications Act of 1983 (S. 999) is before the Senate Committee of Commerce, Science, and Transportation. Should it be passed by Congress, it would provide a clear-cut, definitive policy statement backed by law. Section 602 is the "Statement of Policy." It reads as follows:

"Sec.602.(a) It is the policy of the United States to rely wherever and whenever possible on marketplace competition and on the private sector to provide international telecommunications services, and to reduce unnecessary regulation and to encourage entry by new carriers into the international telecommunications marketplace. Marketplace competition will result in technological innovation, operating efficiencies, and availability of a wide variety of telecommunications technologies that are now or may become available in the future, and will promote the equitable and efficient use of such technologies to provide international telecommunications services. Where effective competition does not now exist, it is the policy of the United States to encourage the development of such competition. Whenever the Commission finds it necessary to regulate international telecommunications services or facilities which are not subject to effective competition, such regulation shall be the minimum needed to accomplish the purposes of this Act. It shall be presumed that there are no basic technological, operational, or economic factors which would necessarily preclude the provision of any international telecommunications service under conditions of competition.

"(b) The Congress recognizes that the provision of international telecommunications services, and the planning, construction, and ownership of international telecommunications facilities, are necessarily joint undertakings between the United States persons and representatives of numerous sovereign nations. Accordingly, the interests of those sovereign nations are to be considered in the implementation of United States policy.

"(c) It shall be the policy of the United States to promote, including through meetings with foreign telecommunications entities, the deregulation of the resale or shared use of any international telecommunications service.

"(d) It shall be the policy of the United States to promote the interconnection of international telecommunications facilities based upon the cost of providing such facilities. 17

S. 999 undoubtedly supports the introduction of new international commercial satellite systems, but it is equally noteworthy for statements it does not make. No mention is made of U.S. commitment to INTELSAT, no mention is made of a global satellite system, and no mention is made of assisting developing countries. This policy statement is very different from the Declaration of Policy and Purpose statement of the Communications Satellite Act of 1962. S. 999 also alleviates any possible inconsistencies new international satellite systems may have with the Communications Satellite Act of 1962 by amending Section 102(d) of that Act to read:

"(d) It is not the intent of Congress by this Act to preclude the use of the communications satellite system for domestic communication services where consistent with the provisions of this Act nor to preclude the creation of additional domestic and international communications satellite systems, if required to meet unique governmental needs or if otherwise required in the national interest or if such other communications satellite systems will otherwise serve the public interest, convenience and necessity. 18

Other changes to the Communications Satellite Act of 1962 effectively remove any special relationship between COMSAT and the U.S. government other than that which would exist with any large, regulated common carrier corporation. COMSAT is authorized to provide international services directly to the public subject to FCC requirements. The FCC is given the power to grant authorization for the construction and operation of satellite terminals to COMSAT, authorized carriers, or persons "as will best serve the public interest, convenience and necessity."¹⁹ While COMSAT remains the U.S. representative to INTELSAT,

both the President and the FCC are authorized to issue instructions to the corporation. Many other additions and changes are made to the Communications Satellite Act of 1962 by S. 999, but the thrust of this far-reaching bill is apparent. Competition promotion is the U.S. policy. COMSAT takes its place as another international common carrier, and earth station ownership is open to virtually everyone. Should S. 999 become law, there seems little reason for the FCC to deny the Orion and ISI applications.

Orbital Slots and Frequency Spectrum

Because the number of geosynchronous orbits and usable frequencies are limited, it has been U.S. policy to allocate these precious resources as efficiently as possible. The United States has promoted this attitude internationally. INTELSAT has claimed that Orion and ISI needlessly duplicate their services and waste these limited quantities. As demand for satellite services has increased, INTELSAT has responded by increasing its satellite fleet and their communication capacity. Still, "there are severe limitations on the availability of INTELSAT transponders that are set aside for video service, and INTELSAT has admitted that demand for INTELSAT television capacity surpasses its ability to meet it."²⁰ If, to meet this demand, INTELSAT launches an additional satellite, the question arises as to how it would utilize spectrum and orbital locations more efficiently than an Orion or ISI satellite.

Exploring Possible FCC Decisions

As with many decisions made by individuals, sometimes the FCC gathers information, considers consequences, makes a decision, and later justifies it. For this reason, the detailed legal aspects of the Communications Act of 1934, the Communications Satellite Act of 1962, and FCC rulings will not be discussed here. The various FCC filings have also adequately covered these topics. The Executive Branch review will guide the FCC, an arm of Congress, and a decision will be made on the advisability of competitive international communications satellites. If the decision strongly displeases Congress, legislation will be passed to overrule it. If private parties are disturbed, the courts will rule on the legality of the determination. The point, however, is that a political decision will be made and justified afterward. Three general actions are possible. One or both proposals can be accepted as presented, denied, or modified. Since the political concepts involved with both the Orion and ISI proposals are basically the same, the fate of one proposal will be assumed the fate of the other.

Accepted as Presented

It is unlikely that the proposals will be accepted without modification. There has simply been too much controversy surrounding the applications, both domestically and internationally. It will be necessary to demonstrate careful deliberation of the relevant issues and mollify dissatisfied interests. Neither would be accomplished by

the complete and total acceptance of the applications.

Denied

It is conceivable the Commission will deny the applications. In this eventuality, they would most likely justify their action based on arguments quite similar to those presented by COMSAT. The support for such a decision, however, would probably provide loopholes for competitive international systems at a later time. Should another nation establish a transatlantic system, the United States would not want to be prohibited from doing likewise because of an FCC ruling against Orion and ISI.

The FCC can also delay a decision or require a time-consuming procedural process which effectively accomplishes the same thing as a denial. The actual proposal is merely the first of numerous filings, comments, publicity campaigns, and other politicing performed to favorably persuade the Commission. These actions and the attorneys who coordinate them are extremely costly. For a newly formed corporation with no income, long time delays are deadly; financial backing does not continue indefinitely. By employing such tactics, the FCC may be able to sidestep a delicate issue they do not wish to rule on. The case of the Orion and ISI proposals, however, has drawn sufficient attention that some explicit actions will probably be taken to approve or disapprove.

Modifications

Approval of the proposals could be granted while restricting certain aspects. For example, traffic could be limited to only specified countries and confined to only certain services. Transponder capacity could be decreased, and spectrum specifications could be altered, etc. Modifications could be designed to lessen a system's impact on INTELSAT. Politically, they might be intended to demonstrate support for INTELSAT's international satellite monopoly while still encouraging competition and allowing for a gradual diminishing of INTELSAT's international satellite monopoly.

The Commission could also promote competition by denying the proposals, but altering the relationship between COMSAT and INTELSAT. According to Richard Colino, 90 percent of the end user's cost is due to charges by COMSAT and the common carriers. Only 10 percent is derived from INTELSAT expense.²¹ If the United States permitted direct access to INTELSAT and private ownership of INTELSAT-accessing earth stations, customer costs could be reduced. INTELSAT has begun to offer services (IBS) in the higher frequency bands which do not compete with microwave transmissions and can, therefore, be located near urban areas. INTELSAT has also started designing its systems for compatibility with small earth stations applicable for use at the customer's premise. If COMSAT were no longer an intermediary, competition would be promoted within the United States even if the Orion and ISI proposals are denied. Should they be accepted under the same circumstances, INTELSAT would be in a much stronger position to com-

pete with the newly emerging competitive international satellite systems.

The FCC could also choose to permit the establishment of one or more commercial systems on an experimental basis. By allowing a system of this status, the Commission can avoid the appearance of acting contrary to the well-being of INTELSAT.

Support for INTELSAT

Laws and organizations are often established to perform specific functions in a specified situation. They accomplish these tasks admirably and because of their success they are allowed to continue long after their goals have been attained and circumstances have changed.

INTELSAT was established to provide a single global commercial communication satellite system available as quickly as possible, on a non-discriminatory basis, to the nations of the world. It was intended to use the most advanced technology, the most efficient and economic facilities, and the most equitable use of spectrum and orbital slots.²²

Unquestionably, INTELSAT has accomplished these goals, set forth twenty years ago. Perhaps it is time to redefine INTELSAT's character and aims. Richard Colino has said:

[W]e are talking here about something that I have heard referred to as the winds of competition. If the winds of competition are seen by the proponents of Intelsat competition to be blowing, then it is most important to revisit and revise the Intelsat charter and mission. 23

Within the next few years, INTELSAT will be confronted with direct competition from transatlantic fiber optic cables. This industry is under no obligation to INTELSAT. If the arguments expounded against Orion and ISI applications are accurate, INTELSAT's viability could shortly be in jeopardy from cable traffic diversion. Under these circumstances, why prohibit additional satellite systems from also entering the competition?

NOTES - CHAPTER V

¹Peter K. Runge and Patrick R. Trishitta, "Future Underseas Light Wave Communications System," Signal Magazine, June 1983, p. 31.

²INTELSAT, INTELSAT Is ..., p. 7.

³Ibid., p. 14.

⁴INTELSAT, INTELSAT Memoirs, p. 20.

⁵U.S., Department of State, Interagency Committee on International Communications and Information Policy, Task Force, Recommendations for Legislative Action in International Telecommunications, October 10, 1981, p. 7.

⁶Ibid., p. 9.

⁷Judith Tegger Kildow, INTELSAT: Policy-Maker's Dilemma (Lexington, MA: D.C. Heath and Company, 1973), pp. 49-52.

⁸Ibid., pp. 52-82.

⁹"INTELSAT's Arguments Aired in Senate," Broadcasting, October 24, 1983, p. 34.

¹⁰INTELSAT, INTELSAT Annual Report 1983, p. 31.

¹¹Ibid., p. 32.

¹²Judith Tegger Kildow, INTELSAT: Policy-Maker's Dilemma, p. 133.

¹³Ibid., p. 136.

¹⁴U.S., Congress, Senate, Committee on Commerce, Science, and Transportation, Subcommittee on Communications, Hearings on the International Telecommunications Act of 1983, 98th Cong., 1st sess., May 10, 1983, p. 107.

¹⁵INTELSAT, INTELSAT Annual Report 1983, pp. 8-9.

¹⁶Interview with John McLucas, COMSAT, Washington, D.C., September 21, 1983.

¹⁷ U.S., Congress, Senate, Committee on Commerce, Science, and Transportation, The International Telecommunications Act of 1983, S. 999, 98th Cong., 1st sess., April 7, 1983, pp. 6-7.

¹⁸ Ibid., pp. 29-30.

¹⁹ Ibid., p. 33.

²⁰ U.S., Congress, Senate, Committee on Commerce, Science, and Transportation, Subcommittee on Communications, Hearings on the International Telecommunications Act of 1983, p. 108.

²¹ "INTELSAT's Arguments Aired in Senate," p. 34.

²² INTELSAT, Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT), T.I.A.S. No. 7532, August 20, 1971, p. 4.

²³ U.S., Congress, Senate, Committee on Commerce, Science, and Transportation, Subcommittee on Communications, Hearings on the International Telecommunications Act of 1983, p. 111.

CHAPTER VI

CONCLUSIONS

This analysis has examined basic policy issues arising from the Orion and ISI applications for competitive international communications satellite systems. Legal aspects focus on the Communications Act of 1934, the Communications Satellite Act of 1962, FCC rulings, and the INTELSAT Agreements. Political considerations encompass U.S. international telecommunications policy and world opinion. The United States' world trade and technological standing, INTELSAT's viability, and effects on developing nations highlight the economic concerns.

There are no simple answers to this dilemma. The problems are multi-faceted and interdependent. This analysis has attempted to crystalize the difficulties, raise some probing questions, and discuss the feasibility of possible outcomes. The advisability of competitive international communications satellites will only be determined by events seen in the perspective of time.

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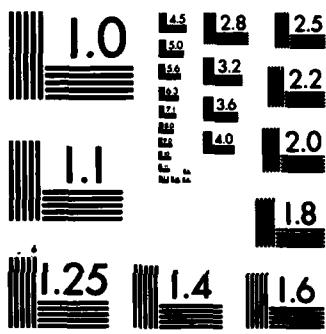
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